

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P437424

Luminaire Tested: **ISS-SA1C-830-U-SL4**

Issue Date: 12/9/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P437424  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/9/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: ISS-SA1C-830-U-SL4  
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE  
(1) 80 CRI, 3000K, 615mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL LIGHT  
ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

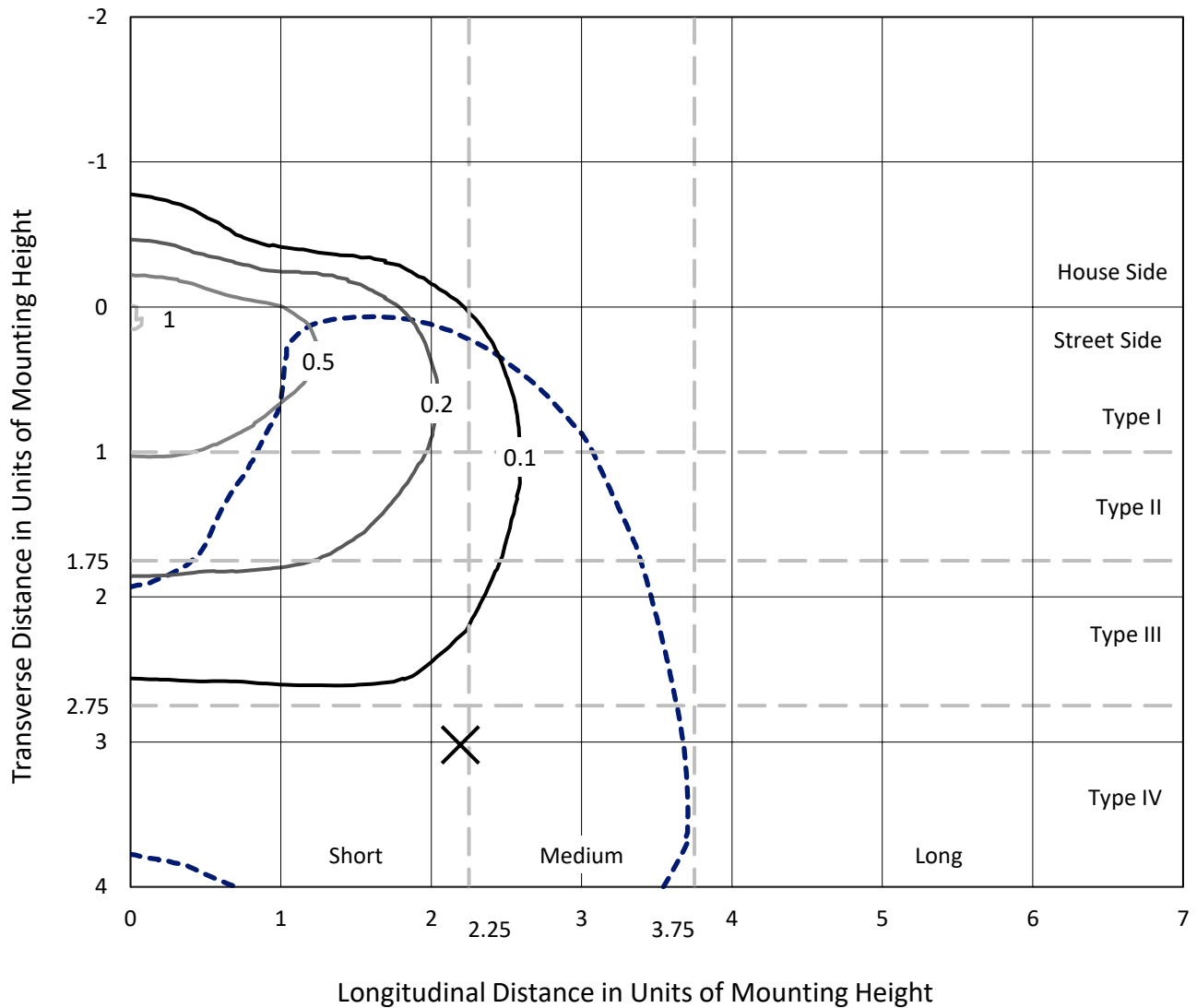
Lumens per Lamp: N/A  
Luminaire Lumens: 3510 lumens  
Efficiency: N/A  
Efficacy: 102.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 34.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

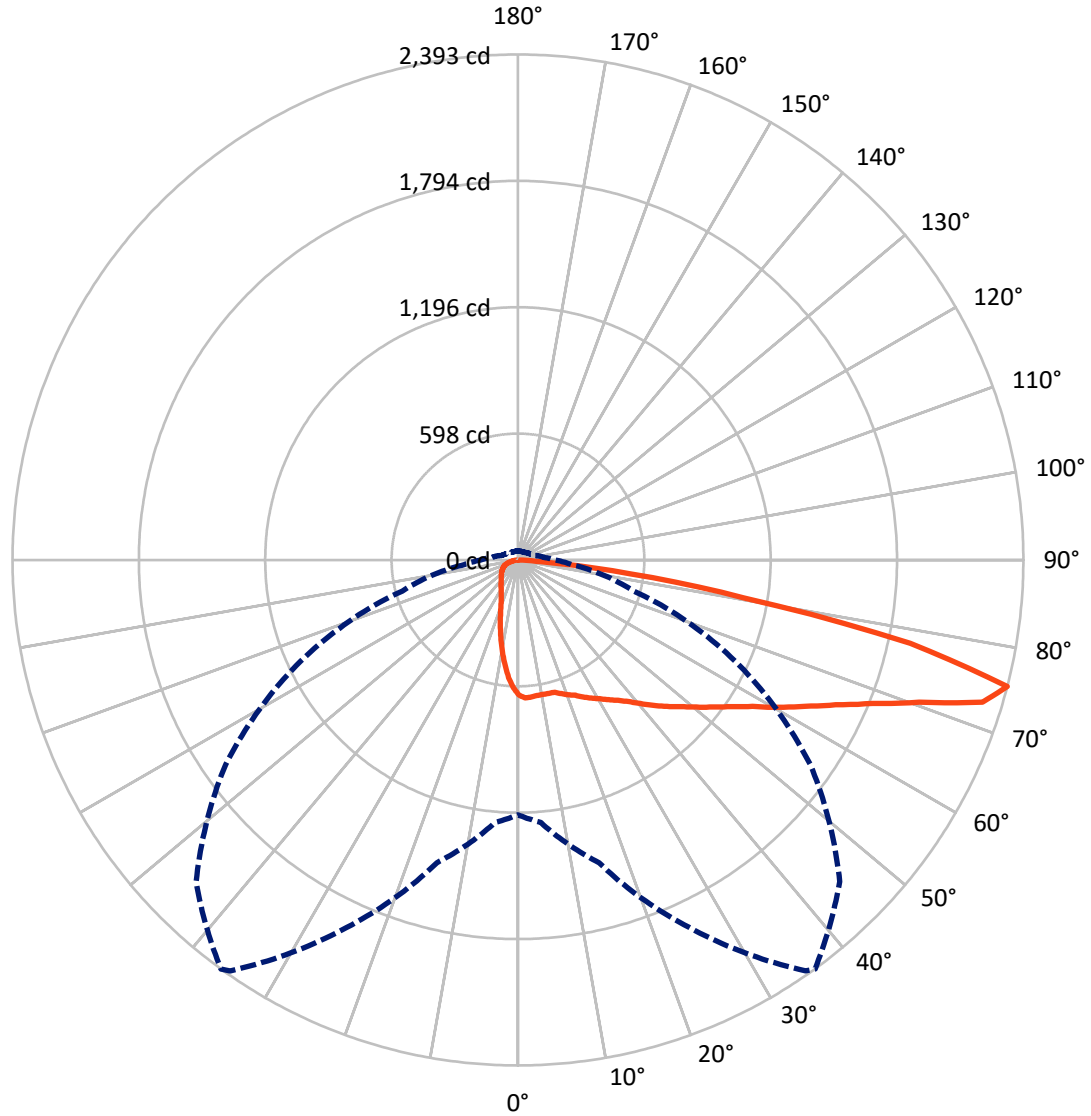
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 75-Deg Vertical

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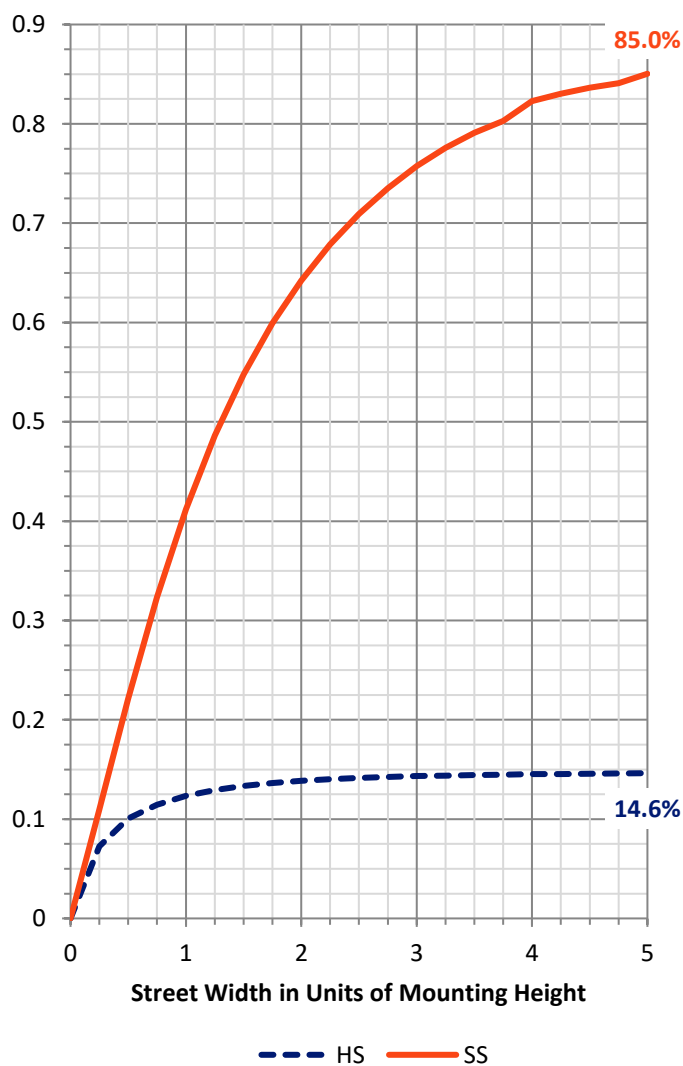
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	518.0	0.0	518.0
	% Fixture	14.8	0.0	14.8
<b>Street Side</b>	Lumens	2992.0	0.0	2992.0
	% Fixture	85.2	0.0	85.2
<b>Total</b>	Lumens	3510.0	0.0	3510.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.5	1.6
10°-20°	146.0	4.2
20°-30°	225.9	6.4
30°-40°	327.1	9.3
40°-50°	473.1	13.5
50°-60°	656.2	18.7
60°-70°	828.6	23.6
70°-80°	711.7	20.3
80°-90°	84.8	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	3510.0	100.0
0°-180°	3510.0	100.0

**Coefficient of Utilization**

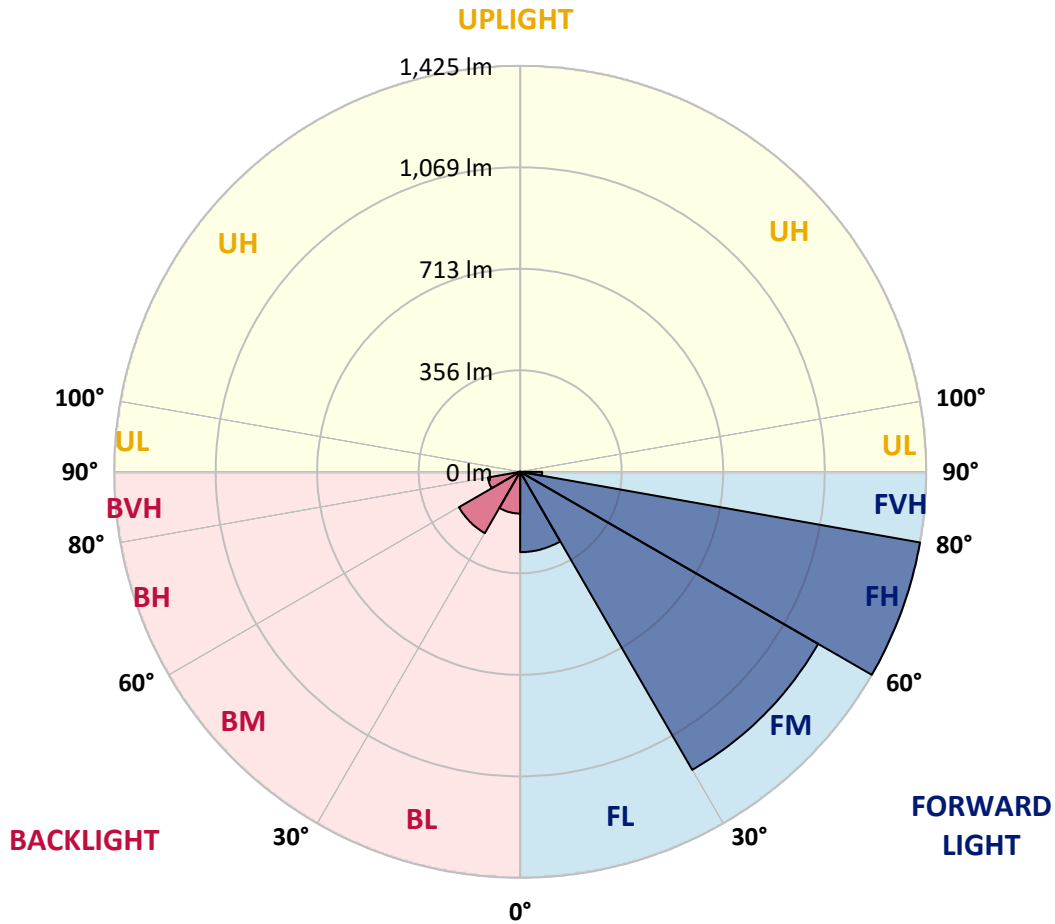


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	281.9	8.0			
FM (30°-60°)	1208.1	34.4			
FH (60°-80°)	1425.1	40.6			G1/1800
FVH (80°-90°)	77.0	2.2			G1/100
BL (0°-30°)	146.5	4.2	B1/500		
BM (30°-60°)	248.4	7.1	B1/1000		
BH (60°-80°)	115.3	3.3	B1/500		G1/500
BVH (80°-90°)	7.8	0.2			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4
2.5°	658.7	658.7	658.7	657.4	654.8	653.5	650.9	648.2	646.9	641.7	640.4
5°	658.7	660.0	658.7	657.4	654.8	652.2	649.5	644.3	640.4	633.8	627.3
7.5°	652.2	653.5	653.5	652.2	649.5	648.2	645.6	639.1	633.8	624.7	614.2
10°	641.7	644.3	644.3	645.6	646.9	646.9	644.3	639.1	631.2	620.7	603.7
12.5°	628.6	635.1	639.1	643.0	648.2	648.2	649.5	641.7	635.1	620.7	603.7
15°	624.7	628.6	636.5	648.2	653.5	649.5	654.8	650.9	643.0	628.6	607.6
17.5°	623.4	627.3	640.4	654.8	662.6	665.3	665.3	660.0	650.9	636.5	610.3
20°	628.6	633.8	650.9	669.2	681.0	681.0	679.7	673.1	661.3	644.3	615.5
22.5°	645.6	646.9	666.6	688.8	698.0	695.4	698.0	686.2	673.1	656.1	622.0
25°	667.9	670.5	686.2	712.4	717.6	719.0	715.0	701.9	687.5	670.5	629.9
27.5°	698.0	701.9	713.7	738.6	742.5	739.9	734.7	719.0	704.6	688.8	645.6
30°	733.4	736.0	750.4	760.9	764.8	762.2	758.2	741.2	729.4	715.0	669.2
32.5°	767.4	768.7	784.4	794.9	788.4	788.4	783.1	766.1	756.9	754.3	699.3
35°	802.8	805.4	819.8	825.0	814.6	815.9	814.6	800.1	802.8	808.0	745.1
37.5°	835.5	839.4	856.5	857.8	853.8	849.9	853.8	846.0	851.2	872.2	798.8
40°	864.3	869.6	890.5	894.4	893.1	893.1	895.7	894.4	914.1	948.1	864.3
42.5°	887.9	894.4	919.3	929.8	937.7	941.6	950.8	953.4	982.2	1037.2	940.3
45°	911.5	918.0	952.1	969.1	987.4	988.7	1007.1	1016.2	1069.9	1119.7	1022.8
47.5°	939.0	946.8	978.3	1012.3	1033.3	1037.2	1071.2	1089.6	1155.0	1219.2	1100.0
50°	976.9	979.6	1004.4	1062.1	1088.3	1094.8	1132.8	1170.8	1242.8	1307.0	1168.1
52.5°	1024.1	1021.5	1033.3	1106.6	1147.2	1156.4	1217.9	1255.9	1342.3	1401.2	1221.8
55°	1063.4	1060.8	1077.8	1157.7	1221.8	1224.5	1297.8	1334.5	1434.0	1470.7	1267.7
57.5°	1109.2	1104.0	1121.0	1219.2	1307.0	1308.3	1393.4	1435.3	1516.5	1532.2	1297.8
60°	1147.2	1147.2	1169.4	1279.5	1401.2	1415.6	1492.9	1525.7	1596.4	1576.7	1312.2
62.5°	1182.5	1189.1	1220.5	1359.3	1512.6	1524.3	1602.9	1616.0	1678.9	1610.8	1296.5
65°	1224.5	1234.9	1295.2	1454.9	1644.8	1652.7	1718.2	1736.5	1761.4	1609.5	1228.4
67.5°	1269.0	1286.0	1365.9	1562.3	1790.2	1811.1	1881.9	1863.5	1816.4	1558.4	1085.6
70°	1329.2	1350.2	1464.1	1705.1	1989.2	2015.4	2108.4	1995.8	1787.6	1376.4	880.0
72.5°	1375.1	1402.6	1558.4	1889.7	2259.0	2299.6	2277.3	1998.4	1602.9	1097.4	589.3
75°	1206.1	1248.0	1483.7	1919.8	2374.3	2392.6	2154.2	1689.4	1135.4	567.0	254.1
77.5°	881.3	878.7	1084.3	1491.6	1946.0	1897.6	1634.3	1098.7	539.5	205.6	128.3
80°	442.6	425.6	586.7	794.9	1050.3	1083.0	966.5	571.0	213.5	110.0	77.3
82.5°	163.7	167.6	214.8	324.8	527.8	535.6	390.3	242.3	116.6	57.6	40.6
85°	62.9	65.5	70.7	70.7	98.2	108.7	100.8	96.9	39.3	19.6	22.3
87.5°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4	640.4
2.5°	636.5	633.8	628.6	619.4	614.2	610.3	605.0	599.8	598.5	597.2	603.7
5°	620.7	616.8	603.7	591.9	578.8	568.4	557.9	548.7	543.5	542.2	544.8
7.5°	605.0	599.8	580.1	556.6	534.3	516.0	497.6	488.5	474.1	474.1	475.4
10°	595.9	586.7	559.2	523.8	495.0	462.3	440.0	417.8	408.6	402.0	399.4
12.5°	590.6	576.2	539.5	500.3	455.7	412.5	382.4	354.9	340.5	330.0	330.0
15°	591.9	576.2	526.4	475.4	417.8	365.4	327.4	297.3	278.9	268.5	265.8
17.5°	590.6	571.0	510.7	443.9	379.8	324.8	278.9	247.5	229.2	222.6	221.3
20°	593.2	567.0	492.4	415.1	343.1	284.2	237.0	208.2	197.7	192.5	191.2
22.5°	594.5	559.2	474.1	383.7	303.8	246.2	206.9	187.3	179.4	175.5	174.2
25°	597.2	557.9	453.1	354.9	271.1	217.4	187.3	170.2	166.3	163.7	163.7
27.5°	607.6	557.9	434.8	318.2	237.0	193.8	170.2	159.8	157.1	155.8	155.8
30°	620.7	560.5	417.8	288.1	210.8	175.5	158.5	150.6	149.3	148.0	148.0
32.5°	643.0	569.7	398.1	259.3	188.6	162.4	149.3	142.7	140.1	140.1	140.1
35°	673.1	585.4	378.5	233.1	170.2	149.3	140.1	133.6	132.3	133.6	133.6
37.5°	716.3	603.7	361.4	209.5	155.8	138.8	131.0	127.0	125.7	125.7	127.0
40°	770.0	636.5	344.4	191.2	145.4	129.6	124.4	120.5	119.2	120.5	120.5
42.5°	829.0	671.8	330.0	172.9	134.9	123.1	116.6	113.9	112.6	113.9	115.2
45°	894.4	708.5	318.2	159.8	127.0	116.6	111.3	110.0	108.7	108.7	110.0
47.5°	949.4	747.8	309.1	150.6	120.5	111.3	107.4	104.8	103.5	102.1	103.5
50°	1000.5	777.9	306.4	145.4	116.6	106.1	102.1	99.5	98.2	96.9	98.2
52.5°	1038.5	793.6	306.4	141.4	112.6	102.1	98.2	95.6	94.3	91.7	93.0
55°	1064.7	801.5	302.5	138.8	108.7	98.2	93.0	91.7	90.4	87.7	87.7
57.5°	1080.4	800.1	288.1	137.5	107.4	93.0	89.1	87.7	86.4	83.8	83.8
60°	1077.8	775.3	261.9	132.3	104.8	89.1	83.8	83.8	83.8	81.2	81.2
62.5°	1039.8	705.9	218.7	124.4	102.1	85.1	78.6	81.2	82.5	79.9	79.9
65°	937.7	599.8	180.7	113.9	95.6	81.2	74.6	78.6	81.2	79.9	78.6
67.5°	789.7	475.4	149.3	103.5	89.1	76.0	69.4	74.6	76.0	76.0	76.0
70°	610.3	341.8	123.1	90.4	79.9	68.1	62.9	65.5	66.8	66.8	68.1
72.5°	361.4	204.3	100.8	77.3	68.1	58.9	55.0	56.3	55.0	55.0	55.0
75°	178.1	127.0	81.2	65.5	57.6	49.8	45.8	43.2	43.2	43.2	41.9
77.5°	108.7	94.3	66.8	52.4	45.8	38.0	35.4	32.7	32.7	32.7	32.7
80°	77.3	73.3	51.1	39.3	31.4	27.5	26.2	24.9	24.9	23.6	23.6
82.5°	48.5	55.0	38.0	26.2	21.0	19.6	18.3	17.0	15.7	14.4	14.4
85°	27.5	35.4	22.3	14.4	11.8	9.2	7.9	7.9	6.5	6.5	5.2
87.5°	1.3	2.6	2.6	2.6	2.6	1.3	1.3	1.3	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Cooper Lighting Solutions Photometric Lab  
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LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2408-195-9  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/07/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **GALN-SB1A-830-U-5WQ**  
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

**Spectral Parameters**

CCT (K): 3050  
 CIE u': 0.2476  
 CIE v': 0.5251  
 Duv: 0.0034  
 CIE x: 0.4383  
 CIE y: 0.4131  
 CIE z: 0.1487  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 581  
 Purity: 55.55201  
 Rf: 81.5  
 Rg: 99.2

CRI (Ra):	81.0		
R1:	79.6	R9:	7.1
R2:	85.6	R10:	67.0
R3:	92.0	R11:	82.7
R4:	82.6	R12:	63.2
R5:	78.9	R13:	80.3
R6:	81.7	R14:	95.0
R7:	85.2	R15:	71.7
R8:	62.0		



**Test Conditions**

Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

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Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.32**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

**Summary**

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



**Color Vector Graphics**





**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
CES10 = 76	CES35 = 90	CES60 = 95	CES85 = 86
CES11 = 59	CES36 = 93	CES61 = 93	CES86 = 72
CES12 = 65	CES37 = 87	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 75	CES63 = 77	CES88 = 83
CES14 = 74	CES39 = 94	CES64 = 83	CES89 = 75
CES15 = 71	CES40 = 89	CES65 = 77	CES90 = 81
CES16 = 47	CES41 = 85	CES66 = 80	CES91 = 96
CES17 = 50	CES42 = 86	CES67 = 79	CES92 = 73
CES18 = 56	CES43 = 81	CES68 = 84	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 76	CES96 = 84
CES22 = 79	CES47 = 77	CES72 = 92	CES97 = 87
CES23 = 92	CES48 = 71	CES73 = 71	CES98 = 81
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 74
CES25 = 72	CES50 = 89	CES75 = 74	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)